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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GORDON G. GUAY

Appeal No. 2009-009378
Application No. 10/664,818
Technology Center 1700

Oral Hearing Held: December 8, 2009

Before JEFFREY T. SMITH, LINDA M. GAUDETTE, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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1 The above-entitled matter came on for hearing on Tuesday, December
2 8, 2009, commencing at 9:34a.m., at the U.S. Patent and Trademark Office,
3 600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson, Notary
4 Public.

5 JUDGE SMITH: Good morning. Board of Patent Appeals.

6 MR. MALONEY: Good morning. This is Denis Maloney calling for hearing
7 2009-9378.

8 JUDGE SMITH: Good morning, Mr. Maloney. This is Judge Smith and your
9 panel for today is Jeffrey Smith, Linda Gaudette, and Karen Hastings. As you
10 know, your application is open to the public and we do have members of the
11 public also here in the hearing room with us today.

12 MR. MALONEY: Okay.

13 JUDGE SMITH: Also, as you are aware, the hearing procedure is being
14 transcribed and you will get a transcript that will be added to the record.

15 MR. MALONEY: I understand.

16 JUDGE SMITH: Okay. Well, with all that taken care of, you have 20 minutes
17 to present your argument.

18 MR. MALONEY: Thank you very much.

19 We have two prior art -- we have several prior art rejections here. I would like
20 to go over as many of them as possible. I will start with the rejection of claims
21 11, 15 and 24 as being anticipated by Deinzer.

22 Claim 11 is directed toward a fuel cartridge to apply fuel to a fuel cell and the
23 elements of claim 11 include a housing that contains and is in direct contact
24 with a source of -- a liquid source of an oxidizable fuel and has a portion of the
25 wall of the housing comprised of a clear conductive material.

1 Another element of the claim 1 is a fuel egress port supported by the housing
2 and the -- there is a functional limitation in the claim 1 that's a portion of the
3 wall of the housing sinks heat generated from external component to enhance a
4 delivery rate of the liquid source of oxidizable fuel in a vapor phase through
5 the egress port of the container.

6 Now, Deinzer, a reference cited by the Examiner, describes a fuel cartridge,
7 and Deinzer mentions that the walls of the housing can be either metal or
8 plastic but never mentions they can be both and it expresses a preference for
9 metal for certain applications. However, Deinzer does not describe any hybrid
10 construction, which presumably would be more expensive than a construction
11 of one material, and, thus, absent some reason to construct the housing of two
12 materials is clearly not inherent in Deinzer.

13 For all of the embodiments Deinzer describes, Deinzer has a sleeve, 312, or
14 other -- and other numbers in other figures that surrounds the methanol and
15 actually contains the methanol. The sleeves are configured to form a bellows
16 and is comprised of an elastomer which Deinzer describes as being thermally
17 insulated.

18 Nothing is mentioned concerning the thermal properties of the sleeve material
19 and, indeed, the structure of Deinzer does not anticipate claim 11 because
20 Deinzer does not meet the limitation of the housing containing in direct contact
21 with a liquid source of an oxidizable fuel.

22 JUDGE SMITH: Excuse me, counselor. Do you have a special definition for
23 "thermally conductive material"?

24 MR. MALONEY: Do I have a commercial -- do I have -- I think one of skill
25 in the art would understand that metal is a thermally conductive material, that

1 it is not thermally insulating, whereas an elastomer is generally thermally
2 insulated.

3 JUDGE SMITH: Does your specification describe that?

4 MR. MALONEY: I don't think our specification needs to describe that. I
5 think a person skilled in the art would understand what we mean by "thermally
6 conductive material." Deinzer understands that. Deinzer understands that a
7 metal is thermally conductive and plastic is not. I don't see why that's
8 necessary.

9 JUDGE GAUDETTE: This is Judge Gaudette. I had a question for you about
10 the housing. The Examiner is finding that the wall, 312, is part of the housing,
11 and I guess you disagree with that. I wondered if there is anything you could
12 point us to in the specification that would exclude a sleeve like 312 in Deinzer
13 from the claim language.

14 MR. MALONEY: Well, if we read the specification, we will read that, A,
15 there is no sleeve in our embodiment, number one; and number two, the whole
16 point of this invention is that you want to configure the cartridge or the
17 container, depending upon which claim we are talking about, to -- to have a
18 portion of the wall that's comprised of a thermally conductive material, such as
19 a metal, so that the heat that's generated by, for example, a laptop computer,
20 can be used to -- the heat is sunk into this container and it -- it encourages
21 the -- or it helps vaporize the liquid that's in the container so that when the
22 liquid -- so when the fuel comes out of the container, it comes out as a vapor
23 that can be used in the fuel cell.

24 Now, this is -- the application describes that quite plainly. So if this is what
25 we are trying to do with this particular fuel cartridge is to help vaporize the
26 fuel in the cartridge by using the waste heat from the generation of the

1 electrical -- electronic components, it would seem to me that we would not
2 want to put a thermally insulating sleeve inside of the container like Deinzer
3 does.

4 Now, the Examiner -- you know, the claim specifically requires that the liquid
5 fuel is in contact with the housing walls, and we only have one housing, that is
6 that's the housing described in the figure, we don't have any sleeve, so I don't
7 think, you know, our specification could support a claim that talked about a
8 sleeve inside of the housing. Our specification doesn't support what Deinzer
9 describes.

10 The Examiner appears, I think quite improperly, to take Deinzer and modify
11 Deinzer in the context of an anticipation rejection. This is not -- first of all,
12 this is not an obviousness rejection, it is an anticipation rejection. So the
13 Examiner, obviously, recognizes this deficiency in Deinzer and proposes to
14 modify Deinzer by somehow -- somehow arguing that the sleeve is part of the
15 housing, when that's not the way Deinzer describes it and no way a person of
16 skill in the art would look at it.

17 JUDGE SMITH: I guess the real question here is what do you have to
18 specifically define housing that excludes the reference.

19 MR. MALONEY: What we specifically have is that a portion of the wall of
20 the housing is comprised of thermally conductive material and the housing is
21 in contact with the -- with the liquid. And in Deinzer, the housing is not in
22 contact with the liquid, the bellows is.

23 JUDGE GAUDETTE: Well, what about in Figure 3 where the Examiner -- it
24 is on page 7 of the Answer -- is directing you to the portion of the housing that
25 is in contact with the fluid?

26 MR. MALONEY: Well, a portion of the housing is in contact. That's not

1 what our claim says. Our claim says the housing is in contact. It doesn't say a
2 portion of it is.

3 JUDGE GAUDETTE: Yes, it does. It says the housing having at least --
4 okay. I'm sorry.

5 MR. MALONEY: The portion -- the word "a portion" is the part of the
6 housing that has to do with being thermally conductive. So, mind, if you were
7 to, say, modify Deinzer to come up with our claim, you would take 312 out of
8 the claim and you would make one of the walls of the housing thermally
9 conductive. So that's the modification, if you will.

10 JUDGE HASTINGS: This is Judge Hastings. The Examiner isn't modifying
11 Deinzer. It is a 102. He is taking a broadest interpretation of the word
12 "housing" and we are looking to find whether there is anything in your spec
13 that limits your definition of housing. A housing can be more than one
14 component and so the Examiner is reading it on claim 11 on Deinzer saying
15 one portion is the metal portion, which is thermally conductive, and one
16 portion of this other housing.

17 MR. MALONEY: Well, I don't think -- the Examiner may be taking a very
18 broad view of our specification in Deinzer. I don't think that's a reasonable
19 view.

20 JUDGE HASTINGS: We are trying to get your help. Is there anything in
21 your spec that defines the word "housing"?

22 JUDGE HASTINGS: Yes, the housing is what -- the word "housing" is what
23 is housing the fluid. We only show one thing. We don't show any structure
24 like Deinzer. So we could not write a claim that would read on Deinzer
25 because we can't support the claim. I mean you are asking us to have, like, a
26 negative limitation but --

1 JUDGE HASTINGS: I think we understand your position. Let's move on to
2 another rejection.

3 MR. MALONEY: Okay. So claim 13 further limits claim 11 requiring the
4 remaining portions of the cartridge are thermally insulated and Deinzer
5 certainly does not describe this. He doesn't describe any sort of mixed
6 construction of the housing. Deinzer describes the housing as being plastic or
7 metal, not both.

8 Now, there is another rejection of claims 1 to 10 and 16 to 22 as being obvious
9 over Lawrence in view of Hirsch. Claim 1 includes a feature of a housing
10 having at least a portion of a wall being comprised of thermally conductive
11 material, a fuel egress support supported by the housing and a surface area
12 enhanced planar vaporization membrane residing in the container.

13 Now, again, Lawrence has this expandable fuel bladder, does not suggest the
14 housing of the specific type of construction that's called for in claim 1, and
15 describes this bladder as expandable and teaches that it holds -- it holds a fuel
16 egress port. So, again, Lawrence does not describe that the fuel egress port --
17 the fuel egress port is supported by the housing, which is required by claim 1.
18 The Examiner uses Hirsch as teaching an enhanced -- an enhanced membrane,
19 planar vaporization membrane. Without conceding whether or not, in fact,
20 Hirsch teaches this particular membrane, we take the position that there is no
21 suggestion to combine Lawrence's bladder with Hirsch's so-called membrane
22 because the Examiner has just not shown how you put this membrane inside
23 this collapsible bladder.

24 It seems to be a bit of a stretch, if you will, that one would put the membrane
25 inside a collapsible bladder.

1 And even if one were to do this, which we don't concede one would do, it still
2 does not meet all the limitations of claim, specifically the limitations that fuel
3 egress ports is supported by the housing, and also doesn't meet the feature that
4 the portion -- at least a portion of the wall of the housing be comprised of
5 thermally conductive material and the functional limitations that sinks heat to
6 enhance a delivery rate of the methanol in a vapor phase across the membrane
7 to deliver the vapor at an egress port of the container as required by claim 10.
8 The specific functional relationship of the thermally conductive wall of the
9 housing in combination with the methanol is -- is the actual enhancing in the
10 vaporization process across the membrane and is just not suggested by the
11 combination of these references.

12 There is another rejection of claim 23 -- any questions with respect to that?

13 JUDGE GAUDETTE: No.

14 MR. MALONEY: With respect to claims 23 and 20 -- claim 25, the Examiner
15 again has not shown that the fuel cartridge was configured for a specific
16 electronic device and, particularly, this configuration has a wall of the housing
17 configured to be disposed adjacent to heat dissipating element of electronic
18 device.

19 So, for example, using a laptop computer as an example, one would take a
20 cartridge, such as in claim 23, configure one of the walls of the housing to
21 be -- to have it disposed adjacent to the CPU, specifically the element in the
22 laptop that generates the most heat, and that's -- that type of configuration is
23 just simply not -- or anything akin to that is just simply not described by any
24 combination of these references.

1 None of these references really try to use dissipating heat of the device to
2 enhance the vaporization rate of the -- of the fuel -- liquid fuel inside of the
3 cartridge.

4 Okay. Any questions with respect to that?

5 JUDGE SMITH: No questions.

6 MR. MALONEY: Okay. Claim 26 includes a feature of the cartridge includes
7 a surface enhanced planar vaporization membrane residing in the cartridge.

8 The Examiner here shows -- in our view, the Examiner neither showed how
9 Hirsch describes the claimed surface enhanced planar vaporization membrane,
10 which we give several examples of that in the specification, and, particularly,
11 this does not describe how that can be accommodated in Deinzer, just as we
12 don't think it could be accommodated in Lawrence, it could also not be
13 accommodated in Deinzer because Deinzer has a very similar type of
14 construction to their -- to the cartridge, in other words, having this collapsible
15 sleeve.

16 In fact, when you look at all these references the Examiner cites, none of these
17 references have the type of structure that we are calling for in any of these
18 claims. They all seem to use some sort of collapsible sleeve or bellows or
19 something like that and just do not have the liquid fuel in contact with the
20 walls of the housing, which allows -- which allows for different types of
21 construction, then, are called for in either Deinzer or Lawrence and, for that
22 matter, Hirsch.

23 JUDGE GAUDETTE: Just for clarification, is your argument that the
24 membrane of Hirsch could not be physically put into Lawrence's device?

25 MR. MALONEY: My argument for Hirsch is two. One is that they don't

1 describe the surface enhanced planar vaporization membrane. They have a
2 membrane in theirs, not surface enhanced, number one, but, more importantly,
3 there is just no way that the Examiner has come up with to accommodate
4 putting this membrane inside of Deinzer or Lawrence without having the
5 whole structure not -- I don't see how the membrane can function as this thing
6 is being collapsed as -- you know, as the sleeve or the bellows of Lawrence are
7 being collapsed, it just doesn't -- it doesn't -- functionally doesn't seem as
8 though it would work.

9 And the Examiner has not even addressed how that would happen and it is not
10 really up to me to address why it wouldn't really work, it is up to me to point
11 out to the Board that the Examiner has not shown how this would work and
12 I've given you reasons why it would be suggesting.

13 JUDGE GAUDETTE: Okay. Thank you.

14 MR. MALONEY: Okay. Are there any further questions?

15 JUDGE SMITH: No.

16 JUDGE GAUDETTE: No.

17 JUDGE SMITH: No further questions.

18 MR. MALONEY: Okay. Well, thank you very much and have a good day.

19 Whereupon, the proceedings at 9:49 a.m. were concluded.

20